

REMARKS:

Claims 17-24 and 31 are in the case and presented for consideration.

Claim 17 has been amended to refers to the fact that the height or depth of the depression 31 in the treading band 17B, is more or less equal to the width thereof, give or take about 25% (claim 31) as supported by the specification by Fig. 2B and paragraph [0037].

The specification has been amended in view of the Examiner's comments and is now believed to be in proper form.

Claims 16 and 25-30 have been canceled without prejudice, to simplify the prosecution of this application.

Claims 17-24 were rejected as being obvious from a combination of Westerfield and Frase, alone, or in combination of other references as well.

In the prior art, the height is always less than the width of the depression.

The importance of the height-to-width ratio of the depression 31 is because the soil at the time of seeding is a naturally consistent mass having a particular structure (since the soil is not ploughed prior to sowing which would break up the earth allowing the earth to flow somewhat) such that the furrow is opened up at an angle of about 45°, thereby naturally generating an oblique displacement of a volume of soil equivalent to the open furrow in a manner in which it occupies a space to one side which is similar in both width and height to the furrow.

While the section (volume) of the depression in the treading band of the levelling wheel should measure the same as the section (volume) of the furrow, it is important to note that this should not be achieved via any geometry. The geometry of the depression is also important according to the invention. That is to say, there are limits to both the width

and the height since the tilled soil does not behave like a liquid fluid, not even like uniform solid granular matter (like sand) such that the geometry of the displaced soil will tend to be similar.

Hence, there should be a 1:1 height:width ratio give or take 25% considering the semipneumatic levelling wheel under load (as represented in figure 2B, as opposed to the unloaded state represented in figure 1B and comparing the prior art illustrated in figures 1A and 2A respectively), i.e. with the treading band (15B) pressing against the internal chord (23B) which limits deformation thereof. This is meaningful taking into account that the geometry of some levelling wheels may look alike when not under load and may give the impression of having a similar alveolus 31 which practically disappears under load when the wheel is travelling over the ground in contact therewith, thereby reducing the height of the depression to practically nil.

Note that in the Westerfield patent there is no disclosure of means such as chord means for preserving the height of the depression under load.

On the other hand, if the height were excessive (e.g. in excess of 1¼ times the width), there would be less contact surface between the furrow-opener disk and the adjacent side of the levelling wheel such that the latter would not carry out its associated function of scraping off the soil which has stuck to the furrow-opener disk.

Furthermore, if the soil is displaced further away from the furrow by means of a wider, shallower depression, this would place additional work on the attendant covering wheel to replace the soil once the seed has fallen into the furrow. The excess ground which is left disturbed is undesirable or unacceptable in no-till seeding systems.

In other words, the inventor here has found that the furrow-opener disk (25) / levelling wheel (11B) combination works best when the soil temporarily displaced to one

side of the furrow should be as high as possible and as near to the furrow as possible for optimum results of the operation of the covering wheel (35).

Accordingly the claims are believed to define a patentably distinct invention over the prior art and the application and claims are believed to be in condition for allowance.

If any issues remain which may be resolved by telephone communication, the Examiner is respectfully invited to contact the undersigned at the number below, to help advance the application to allowance.

Favorable action is respectfully requested.

Respectfully submitted,



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